DOCUMENT RESUME

ED 183 694 UD 020 349

AUTHOR Linville, Malcolm E.: Belt, Jacqueline
TITLE Motivating the Reluctant Student: Strategies and Teaching Materials.
PUB DATE [79]
NOTE 25p.: Page 11 may be marginally legible due to reproduction quality of original document: Presentation given at the National Urban Education Association Conference (5th, November 17-20, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Elementary Secondary Education: *Instructional Materials: Low Motivation: *Student Motivation: *Teacher Role: *Teaching Methods

ABSTRACT

This presentation is concerned with a variety of ways to motivate the reluctant urban student. Nine examples are used to demonstrate how research on motivation can be used to improve classroom teaching techniques. The strategies and materials which are presented can be modified for use at various grade levels and are designed to encourage further explorations in imaginative teaching on the part of the teacher. (RLV)

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FEB 2 8 1980

MOTIVATING THE RELUCTANT STUDENT: STRATEGIES AND TEACHING MATERIALS

By

MALCOLM E. LINVILLE, Ph.D.
Associate Professor of Education
School of Education-Suite 365
University of Missouri-Kansas City

JACQUELYN BELT, M.A.
Teaching Assistant
School of Education-Suite 319
University of Missouri-Kansas City

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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MOTIVATING THE RELUCTANT STUDENT: STRATEGIES AND TEACHING MATERIALS

Let's imagine we're visiting a classroom in an urban school. The room is arranged informally, and there are several interest centers -- in science and math and social studies -- and there is a comfortable reading corner with lots of books and cushions. You expect to see modern instructional approaches working smoothly and effectively. But what is going on? Two boys are putting crayons in the fish tank on the science table. A girl is writing rude comments on an SRA kit. There is a wrestling match going on under the social studies table; a plump girl listlessly pulls a comb through her tangled hair; several people are talking and laughing while lying on their stomachs. The teacher wanders aimlessly around saying "Here are your reading books. It's time for reading now." No one listens; she holds out the books with all the success of the poor little match girl who couldn't sell her matches and froze to death.

What has gone wrong? It could be a combination of many things. But it is quite likely that the teacher has failed in what Brian Frieder calls the "least developed" of a teacher's roles: The role of motivator. He argues that teachers are trained to state objectives, they learn how to plan, to evaluate -- but they are not taught ways to develop a desire to learn in their students. And all the other skils and activities a teacher engages in may come to nothing if students have no interest in learning.

What I am saying may be especially significant for a teacher in an urban school. Some people feel that if we can only diagnose a student's needs and design a program in terms of his or her goals and capacities, the student will at once begin working away. But we may be leaving a number of significant things out of our programs. It is so easy to go from a diagnosis of needs

and capacities to the appropriate worksheet or page to an indexed card in a learning kit. But these resources -- for many children -- may have no motivational value at all. The child may just sit there and stare, even though the material is at the proper level of difficulty and meshes neatly with the pattern of needs shown by a standardized, validated, and properly midasized test.

Why does the child just sit there, even though there are promises of three whole M and M's if he or she completes the work? It may be because the makers of kits and compilers of workbooks haven't considered how such research findings might be applied to teaching materials. So today I'm going to discuss some of the elements and conditions that do seem to affect motivation -- and show you what materials for an urban program might look like if they were developed from the perspective of research.

First, let's look at a basic element in learning theory that goes back to E. L. Thorndike. I'm going to start by asking you to help me. Let's look at Example One.

EXAMPLE 1

The packet (for an eleventh-grade American literature class) contains several examples of chants by North American Indians. The student is to answer questions about the meaning of the chants, the use of repetition, the use of metaphors and similes from nature, the religious implication of the chants, etc. Then the student is asked to choose one of the suggested activities. One suggestion is that the student write a chant of his or her own in the Indian fashion. One student wrote the following poem:

WE KNOW THE SOUND OF THUNDER DOES NOT COME FROM THE HAMMERINGS
OF GODS
WE KNOW THE LIGHTNING IS NOT SPARKED FROM SACRED ANVILS.
BUT THERE IS MORE THAN SKY AND EARTH BEYOND US, THERE IS
SKY WITHIN --
WHAT OF THE MUFFLED THUNDER HIDDEN THERE?
WHAT OF THE SUDDEN LIGHTNING?

If you received this poem from a student, what kind of comment would you write? Write it below.

Now follow the instructions at the end of the example, and write a comment on the poem.

I'd like to hear some of your comments. Certain kinds of comments can be much more motivating than others. Thorndike, Skinner, and the behaviorists would stress the importance of praise as a reinforcer. Pauline Sears has done research that indicates there is a positive correlation between creativity and a teacher's showing a personal interest in a student's ideas. Did you use the word "I" in your comments?

In a fascinating study by E. B. Page, a large number of students in junior and senior high school were given objective tests. One-third of the tests were handed back with only a letter grade on them; one-third were returned with a stereotyped comment such as "excellent" or "good"; and one-third of the tests were returned with a personal comment, designed to encourage that particular student. The students were then given a second objective test. Which students showed the greatest improvement on the second test? The group which had received encouraging personal comments on the first test. Even those who had received stereotyped comments outperformed those who had received only letter grades. I feel another outcome of this study is especially worth thinking about. The greatest improvement of all was found in the failing students who had received encouraging personal notes.

Comments are important but I would also like to suggest that a packet such as this contains certain motivating elements in its content. D. E. Berlyne has done research indicating that novel elements in a learning situation engage attention and arouse curiosity; the Indian chants in themselves could provide a novel reading experience and result in a different kind of writing exercise.

To summarize, it may well be a mistake to assume that the satisfaction of completing a task is sufficient for motivating students. Don't forget the personal touch -- don't leave warmth, enthusiasm, and the "I" out of your response to a student's efforts.

Good teachers have used techniques of reinforcement for thousands of years. The Roman Quintilian used to give children a cookie baked in the form of a letter of the alphabet after a child could recognize the letter. But Thorndike explored another element in motivation which had not been so widely used before. His research and that of others would indicate that --

Let's look at Example 11.

(This is called stimulating curiosity, another element in motivation.)

Read Question 1.

EXAMPLE 11

Below are several examples from real life of efforts by teachers to motivate their students. In each instance, check the motivating factor that you feel is <u>most</u> important in the situation.

1. In a speech class, a teacher sets up a role-playing situation. A prospective employer asks a student what his interests are and what he likes to do. Then the same student sits down with a girl (or boy) friend and answers the same questions. The role-playing is followed by a discussion of how situations determine the vocabulary and level of language we might use.

Which motivational element do you feel the teacher was most concerned with in developing this exercise?

_____ Emotional involvement

_____ Student interest

_____ Student goals

_____ Incentives

11. A history teacher wants to help students realize what life was like before the Industrial Revolution. The teacher darkens the room and lights candles. A red bulb is lit to represent a fireplace. The teacher instructs various children to chop wood or spin wool or get water from a well.

This teacher is appealing to:

_____ Curiosity

_____ Emotions

_____ Activity drive

As soon as participants have an answer, give the best answer:

X student goals

Point out other answers are also possible, but Student Goals is probably the best (getting a job, making points with a girl or boy friend).

Then read Question 11.

As soon as participants have checked an answer, give the best answer:

X emotions (Most comprehensive answer in this case).

The motivating element I have used here is called "Immediate Feedback." The group has not had to wait to learn what I considered to be the best answers.

There is a great deal of research (by French, Angell, and others) which indicates that feedback or knowledge of results helps to improve a student's performance, with immediate feedback usually more effective than that which is delayed. (One advantage

of programmed learning and kits for individualized instruction is that they generally provide for immediate feedback.) So don't keep papers for a week or a month -- a great deal of incentive can be lost if you do.

Now let's look at another theoretical approach to motivation. Clark Hull and his followers believed that a teacher should arouse a need for learning in students and that in turn, such a need would develop a drive for learning. No learning, according to Hull, would take place unless there was such a drive.

Our Third Example, based on Hull's work, might be used in a mathematics class when decimals are being taught. Students would be told that if they learn to use decimals they can keep personal and business accounts and might even learn to make out an income tax and save $50.00. As practice in using decimals, they'll keep the books for a camera shop named after the school. Who knows when they might want to know how to keep books?

Hand out commercial bookkeeping sheets.

EXAMPLE 111

In a packet, students receive instructions for bookkeeping or these may be given orally. Then they are given a sheet such as the following:

NEW SCHOOL CAMERA COMPANY

	SALE PRICE
Pentax ME Camera (automatic 35 mm.)	$278.99
Canon AE-1 35 mm. Camera	332.99
Strobe with 4-way bounce, 65° angle	39.99
Polaroid S-X 70 Sonar one-step Camera	179.99
Polaroid One-Step Camera	26.99
Color Print Film 400 ASA	1.69

PURCHASE PRICE

1000 Rolls of Color Print Film	$1063.25
100 Frames	199.99
10 Mini-Pocket Cameras	88.44
24 Basic Strobe Lights	111.72

They are given the following instructions:

On the bookkeeping page, make the following entries, finding the balance after each entry. Start in with 0 balance.

Sale: 6 rolls of color print film

Sale: 2 Polaroid one-step cameras

Purchase: 50 frames

Sale: 1 Pentax ME camera

Sale: 11 roles of color print film

Purchase: 12 basic Strobe lights

And so on.

What is the balance at the end of the day?

This kind of practical, vocationally-oriented exercise has proved to be much more effective in classrooms than a page of review problems from a workbook.

Example 1V represents another learning theory that has been based on a great deal of research. Gestalt or cognitive learning theory. The Gestalt psychologists have theorized that human beings are dissatisfied with that which is incomplete and unfinished and that the organism seeks for wholes and patterns and inter-relationships. A number of studies have shown that, if tasks are interrupted, individuals are anxious to return to complete the task and that an unfinished task or unsolved problem interferes with learnings of other kinds.

So if you want a student to do more than reading or perhaps read a certain book, it might be a good idea to present only part of a story and let the student find the magazine or book to finish the story. Don't make the rest of the story too hard to find.

Let's look at an example in Number Four.

EXAMPLE 1V

This is just a brief summary of what might be used as an "interrupted" story. It is from the book Jesse by Jesse Owens and Paul Neimark. For an instructional situation, I would present it at greater length and more dramatically.

> The 1936 Olympics were held in Berlin. Adolf Hitler and the Nazis were in power, and Hitler had proclaimed that his German athletes, as members of "the master race," were superior to any athletes in the world. He constantly boasted that his tall, blue-eyed, blond track team would vanquish the "inferior" Americans.
>
> The American track and field team was made up mostly of blacks. "We were everything Hitled hated," Jesse Owens, a member of the team, has written. Jesse Owens had broken world records in the 100 and 200-yard dashes and had broken the world broad-jump record. But Hitler argued that he had found a racially pure superman, an athlete named Luz Long. Luz Long had trained all his life for the Olympics and for just one event: the broad-jump.
>
> Jesse Owens writes: "When I first set foot in Berlin's huge stadium on a muggy August day, I felt a strange, ominous chill run through me as my eyes scanned the athletes from other countries and then stopped cold on one who was wearing the German uniform. I knew it was Luz Long. And he was indeed a supreme example of Aryan perfection. Taller than I was by an inch, maybe two...a perfectly

proportioned body, every lithe, pulsating muscle stunningly compressed and honed by tens of thousands of hours of sweat and determination."

Then broad-jumping trials began. Each athlete had three tries to make the qualifying distance: twenty-four feet, six inches. Luz Long jumped first. He made it the first time. "You're lucky this is practice," another athlete said. "If they were measuring what Long did, it might be a new record."

Then it was Jesse Owens' time to jump. He hadn't jumped less than twenty-five feet, even in practice, for two years. And his first jump seemed to be good. Only he had fouled. In his eagerness to show Luz Long -- and Hitler -- what he could do, he had been careless in measuring his steps and had gone over the take-off board.

"Forget it," Jesse Owens told himself. "You've fouled before. There are still two jumps left."

He jumped again. And he fell short by three inches. He had jumped less than twenty-five feet. And he hadn't done that since high school!

"I'm off my turn'" he screamed inside.

He tried to get off by himself. But a reporter stopped him.

"Jesse, is it true that Hitler walked out of the stadium on you?" the reporter asked. He pointed to Hitler's plush box in the first row center. It was glaringly empty.

"I don't know." Jesse answered.

"I saw Hitler leave before your first practice jump. A couple of German athletes said that Hitler had made a vow not to look at you in action. Crazy?"

Was Hitler crazy? Jesse wondered. He had one jump left. And almost no time to get ready for it.

"What if -- what if -- what if I didn't qualify?" The thought went through Jesse's mind. "Hitler won't look so crazy, then..."

Jesse tried to fight this feeling. "But," he writes. "One cell at a time, panic crept into my body.

Any minute now, they would call his name. He walked back into the broad-jump area. He heard a name called. His.

He closed his eyes. One of his knees touched the ground.

"Jesse Owens!"

The loudspeaker called his name for the last time.

If any of you want to know what happened, you'll have to read the book.

Now we'll look at reserach concerned with specific elements in motivation, rather than that associated with broader theories of learning.

Berlyne has been concerned with provoking curiosity as a means of motivating students and has done research indicating that students who take a pretest and then are given information retain more of that information than students who receive the same information without a pretest. Morozova, a Russian scientist, has advocated the use of stimulating questions. His example: "We have just studied how plants use chlorophyll and light to carry out chemical reactions essential to their survival. But there are plants that survive and reproduce without chlorophyll and without sunlight. Do you know what they are?" Hopefully, the students will seek out the answer. To save some time and effort, I'll tell you the answer now. It's "Fungi."

I have provided another such question in Example Five.

EXAMPLE V

Question: Does the order in which a person is born in a family (whether first child, second child, etc.) affect his personality characteristics and his vocational choice?

Beginning of an answer:

Should vocational counselors consider birth order when they are advising clients concerning vocational possibilities? Alfred Adler argued that rivalries between a first-born child and children who come later were primary determinants of personality. It might be said that Adler was observing a highly structured, autocratic Viennese society and that his findings would be less relevant to a free-and-easy, permissive American way of living. Yet Phillip S. Very and Richard W. Prull have found some evidence that Adler's ideas about birth order might be equally applicable to American society.

Karl Konig has related birth order to specific personality types and has described the first-born child as tending to be a leader, aggressive, ambitious, and independent. (He saw the second-born child as tending to be more casual, less pressured, and the third-born as sensitive and possibly withdrawn. Only children combine the traits of the first and third-born.) Empirical evidence from a study of 64 American children by Bossard and Boll supported Konig's theories concerning the first and second-born.

Very and Prull read a description of the aggressive qualities of lawyers and wondered if first-born children, whose personalities seemed to fit the pattern of a lawyer's role, might not tend to choose the legal profession. So they contacted a random sample of 100 Boston lawyers by telephone and asked them their ages and the order of their births.

Then they looked at census records, as they realized that wars and depressions would affect family size. On the basis of these records, they concluded that they would expect about 37% of the 100 lawyers to be first-born.

However, they found that 66 of the 100 were in the first-born category. (A statistical test indicated this was significant at the .01 level.) Only 23 lawyers in the sample were second-born, and even fewer (8) were third-born. Strangely enough, only 3 of the lawyers were only children.

So Very and Just concluded, with proper caution, that their results tended to support the existence of a relationship between birth order and personality traits. In turn, personality traits would influence vocational choice. So the question, "Are you the oldest child in your family?" might well be worth asking. Especially if it is combined with careful observation and a look at other evidence.

Reference: Philip S. Very and Richard W. Prull, "Birth Order, Personality Development, and the Choice of [illegible]"

A number of projects could develop from a question such as this. (It only takes one question.) A student might want to explore further the ideas of Adler and Karl Konig. Or a student might want to find out the birth orders of members of the class and compare their personality characteristics with those listed by Konig. Or a student might want to read Konig's book and write an essay on how well he or she fits into Konig's patterns.

In a review of motivation research done in actual classroom settings, Richard Gorman lists certain elements that lead to attention and curiosity on the part of students. Example VI illustrates at least two of these, conflict and ambiguity.

In this learning activity, students read two interviews with young professional athletes who have recently experienced failure and are at an uncertain point in their careers. The articles are too long to reproduce here, but, if you look at Example VI, you will find some quotations from the articles.

EXAMPLE VI

> Clint Hurdle is a twenty-one-year old baseball player. Only a year ago, he was brought up to the major leagues as the 1978 "Phenom." A year later, he is back in the minor leagues with a .193 batting average. He was once considered a sensational hitting prospect, but now "he has pressed and got more tight." His timing is off -- "and so are my mechanics." He refuses to tell the interviewer why his mechanics are off. "I know now. Everybody else does, too," he says, "I'm not going to burn any bridges. I got a lot of steam, I got a lot of bitterness, but I'm not gonna rip anybody."

He thinks about "things I tried to do the past year and a half that people wanted me to do. Things I never should have done."

To deal with his situation, Hurdle has made some decisions.

"I've just learned that I've got to be honest with myself. I'm just gonna come out here and play for me. I'm not playin' for my wife; I'm not playin' for my folks; I'm not playin' for my friends. I've got to play this ball game for me."

Tony Chiaverini is a young boxer who had only lost one fight until he was beaten badly by Sugar Ray Leonard in a nationally televised fight from Los Vegas. The fight was stopped by the referee because Chiaverini was taking such a beating.

His four-year-old daughter told him, "Daddy, you've got to throw faster punches if you want to win."

Chiaverini feels that a basic reason for his failure was that his opponent fought a different type of fight than he expected and he failed to adapt.

"I was too straight up," Chiaverini says. "I should have crouched and I should have been bobbing and weaving. Afterwards you see a lot of things you did wrong. I should have thrown some hooks. I should have done something besides standing there and getting hit."

Chiaverini feels he definitely is not through, but he says, "I've got to get myself together, regroup and make some changes."

Thinking about the past and future, he says, "Everything I've got, I've worked hard for. I don't have a lot of natural talent. One of the reasons I want to keep fighting is that I want to prove you don't have to be a super star to be successful. You don't have to be American or All-State or have an Olympic gold medal. The average guy who wants to work can be successful, too."

I would use this kind of material with students who perhaps have little interest in reading (the majority are boys, but these materials have appealed to girls, too). If I were using this, I would develop questions about similarities

and differences in the ways the two men are handling a severe failure experience. How does each one look back at his failure? Where does each man place the responsibility for what happened? What steps are they planning for the future? How does this reflect how each one feels now about his failure experience? Which attitude do you feel might be more productive?

If this material were used in a psychology class, students might compare what these two athletes are saying with the kinds of characteristics that D. C. McClelland says are representative of those with high achievement motivation.

Actually, both athletes have been more successful recently. A nice end to the story.

All of my examples so far have used printed material. But Berlyne has done research that indicates that students are also influenced by color and rhythm. In addition, there is a novel element in opening a packet -- and finding a tape inside.

I am going to play you the tape of a song I might use in a social studies class or an English class. The song "Love Story" is by Randy Newman and is sung by Harry Nilsson. I've given you the words in Example Seven so you can follow along.

Play the tape of "Love Story"

EXAMPLE V11

Love Story

I like your brother
I like your mother
I like you,
And you like me, too.
We'll get a preacher,
I'll buy a ring,
We'll have a band
With an accordion and violin
And a tenor who can sing.
You'n me, baby, you'n me, etc."

We'll have a lad,
Or maybe win one.
He's got to be straight
Cause we don't want but one.
He'll drink his baby brew
From a big brass cup,
Someday may be President
If things loosen up.
You'n me, baby, you'n me, etc.

I'll take the train into the city
Every mornin',
You may be plain, but to me you're pretty
Every mornin',
Some nights we'll go out dancin'
If I'm not too tired,
And some nights we'll sit romancin'
Watching the late show by the fire.

When our kids are grown
With kids of their own,
They'll send us away
To a little home in Florida
We'll play checkers all day
Till we pass away.

-- Randy Newman

I would use the ambiguities in this song to develop a discussion -- or stimulate written compositions -- about the pattern of American life and relationships Randy Newman is describing here. I would ask questions such as the following: Is this a typical pattern among people you know? How does it differ from American life in the past? What does Randy Newman seem to be implying about parent-child relationships? What about the depth and quality of life represented here? Why is the refrain no longer repeated after the first and second verses? What does the music suggest beyond the words?

Actually, an extended project on the world of Randy Newman might be motivating for some students. And other songs of his -- such as "Cowboy" -- could be used effectively with slower students. The use of these kinds of materials can also serve goals other than that of motivation. THey can help students become more aware of what is actually being communicated through the world of popular culture around them. And this world is an immediate and pervasive part of their lives.

A great deal of significant research in the area of motivation has been concerned with what is called the "level of aspiration" of students. The research of Pauline Sears and others in this field can be summarized as follows: Students set "levels of aspiration" for themselves (what they expect to achieve on a test, for example) and these levels influence what they attempt to do. Students who have had success experiences in school tend to set their levels of aspiration somewhat higher over a period of time and have a realistic expectation of what they will do on a learning task. Students who have failed or tend to get low grades generally have expectations that are unreasonably low or unrealistically high. They don't seem to expect an average grade.

Either it's "I'll fail this test, I know" or it's "This time I'll make an A." Some students with prolonged experiences of failure refuse to set any goals at all.

Pauline Sears recommends developing learning experiences designed to take into account the individual student's level of aspiration. For the student with realistic expectations, she would suggest materials that the student can master but which would have an element of challenge. Material that is too easy is frequently rejected by this kind of student. For the student who had not had success, she would suggest material the student can master without too much difficulty so he or she can have a series of positive experiences. She has also stressed verbal and written encouragement from the teacher, and counseling with the teacher and perhaps others.

An individualized instructional program provides many opportunities for taking into account the level of aspiration of each individual student. Example V111 is a real-life illustration of how a teacher individualized assignments about John Steinbeck, taking into account individual abilities and expectations.

EXAMPLE V111

Individualized Assignments on John Steinbeck

Level One (for slower students and those needing success experiences)

Reading Assignment: Of Mice and Men or The Red Pony (both short, written simply and clearly)

Projects: Included art projects such as constructing miniature stage settings for stories. Also included watching film and comparing film and book (for challenge).

Level Two (for average students)

Reading Assignment: The Grapes of Wrath (a long book but interesting)

Projects: Included readings about dust bowl and depresssion period.

Comparison of film and book.

Drawings of characters from book, such as Ma Joad.

Level Three (for above-average students)

Reading Assignment: East of Eden (more complex than The Grapes of Wrath, which could also be chosen by these students.

Projects: Study of the book as a mythical

Comparing the book with basic ideas of Freud.

Essay on whether the book is a failure, as some critics have said.

Comparison of film and book -- differences, strengths, and weaknesses of both forms.

Success -- yet challenge, too. Now let's look at something challenging that might be used with bright students to develop problem-solving skills or to help with critical reading.

Perhaps yousaw this in The Reader's Digest, where it was labeled as "The All-Time Greatest Puzzle," but it has been around for a long time in one form or another. After all, a railroad fireman is one of the characters. I've given you both the puzzle -- described by The Digest as an "absorbing mental challenge" -- and the answer. But try to solve the puzzle first.

EXAMPLE 1X

The Smith-Jones-Robinson Classic

On a train, Smith, Robinson, and Jones are the fireman, brakeman, and engineeer, but not respectively. Also aboard the train are three businessmen who have the same names: A Mr. Smith, a Mr. Robinson, and a Mr. Jones.

1. Mr. Robinson lives in Detroit.
2. The brakeman lives exactly halfway between Chicago and Detroit.
3. Mr. Jones earns exactly $20,000 per year.
4. The brakeman's nearest neighbor, one of the passengers, earns exactly three times as much as the brakeman.
5. Smith beats the fireman at billiards.
6. The passenger whose name is the same as the brakeman's, lives in Chicago.

WHO IS THE ENGINEER?

The brakeman, who lives halfway between Chicago and Detroit, also lives near Mr. _____, who earns exactly three times as much as he does. Mr. ____ can't be Mr. Robinson, as Mr. Robinson lives in Detroit. He can't be Mr. Jones, as Mr. Jones' $20,000 a year isn't divisible by three. Therefore, the brakeman's neighbor must be Mr. Smith.

The passenger whose name is the same as the brakeman's lives in Chicago.

He can't be Mr. Robinson, as Mr. Robinson lives in Detroit. He can't be Mr. Smith, as Mr. Smith is a neighbor of the brakeman, who lives halfway between Chicago and Detroit. Therefore, he must be Jones.

Therefore, the brakeman's name is also Jones.

Smith beats the fireman at billiards, so the fireman must be Robinson.

(Note: This is "Smith," nor "Mr. Smith.")

Therefore the engineer is Smith.

This might seem too much of a challenge, but at least it would arouse interest. And might make students more aware of the significance of certain details in problems or situations.

Is competition or cooperation more motivating for students? Actually, there is no clear-cut answer based on research. Some studies would support the use of one approach, some would support the other. Richard M. Gorman has stated that "A decision on which to use has to be made on grounds other than reasearch."

Although I do not have the support of research, I have decided to give an example of a cooperative effort that motivated students. I am doing this because there is a danger in many classrooms that cooperative efforts might be ignored or neglected. One boy using a workbook in math told me, "Just once in a while, I'd like to work with other people. I feel so alone."

The cooperative effort I'm going to describe was part of the curriculum in a classroom in a poverty area. Some of the class had been studying the westward movement, and the teacher suggested the class write and give a play about the period. The students decided to present a play about the discovery of gold at Sutter's Mill in California, which resulted in the gold rush in the forties of the last century. A committee of students started to write the play. The students interested in art designed and painted the setting, others took care of furniture, propos, and costumes, and those interested in science were made responsible for the lighting effects.

As the play began, we found various settlers sitting around a real coal-oil lamp in Sutter's Mill. They talked about the hard trip West by covered wagon and shook their heads over the problems of deserts and balky oxen and Indians. Then they talked about how lonely California was. This was followed by a pregnant pause. Finally, Mr. Sutter said, "I've got to go outside -- for something." There were knowing giggles from the audience.

"Take the coal-oil lamp," Mrs. Sutter commanded. "You might fall in the dark."

Mr. Sutter left the room.

"Can you hear the mill-wheel?" a character asked.

There was a loud squeaking sound.

"That's the mill-wheel." Mrs. Sutter announced.

Suddenly Mr. Sutter burst into the room. He had a large rock covered with gold foil in his hand.

"Gold!" he shouted. "I've discovered gold. I almost fell over it on my way out back."

"Gold!" screamed Mrs. Sutter, throwing out her arms. "We're rich. We're rich."

Everybody else said, "Gold," in varying tones of enthusiasm.

Then everyone was still. Mr. Sutter cleared his throat.

"Now we'll have a gold rush," he announced.

It may not have happened quite that way, but who knows? Why quibble? Maybe it did. However it happened, everyone was enthusiastic about the play, the acting, and the real coal-oil lamp. Whether this activity quite fits into the pattern of research on motivation or not, I was watching enthusiastic, motivated children who had reached their goal. And who knows what gold they

might have discovered?

Have I aroused interest, curiosity, presented an appropriate challenge? Research won't help me now. The answer is up to you.

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